

Notice of Allowability

Application No.

10/809,033

Examiner

G. Nagesh Rao

Applicant(s)

SASAKI ET AL.

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/10/07.
2. ☒ The allowed claim(s) is/are 1,4-16,18-21,23-25,27-46,53,55,56,58,61 and 62.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 9/27/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1) An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Brian Wong on 8/29/07.

The application has been amended as follows:

IN THE CLAIMS:

In Claim 1 Line 5 please amend after the term "consisting essentially of GaH_x " by adding --wherein the single crystal is grown in an atmosphere of a nitrogen (N) containing gas.--.

In Claim 3 please delete the entire claim.

In Claim 4 please replace with the following: --The method according to claim + 3, wherein the nitrogen (N) containing gas includes at least one selected from the group consisting of NH_3 and N_2 ~~and inert gas~~.--.

In Claim 5 Line 1 please delete the term “material” and replace with --aeriform substance is obtained from a material that is at least--.

In Claim 6 Line 2 after the term “subliming” please replace “the material” with --a material for the GaN single crystal--.

In Claim 15 Line 2 after the term “evaporating” please replace “the material” with --a material for the GaN single crystal--.

In Claim 19 please replace with the following: --The method according to claim 18, wherein the nitrogen (N) containing gas ~~includes at least one selected from the group consisting~~ consists of a N₂ gas ~~and inert gas~~---.

In Claim 28 please replace with the following: --The method according to claim 27, wherein the nitrogen (N) containing gas ~~includes at least one selected from the group consisting~~ consists of a N₂ gas ~~and inert gas~~---.

In Claim 33 please delete the entire claim.

In Claim 34 please replace the numeral “1” after the word “claim” with --15--.

In Claim 35 please replace the numeral "1" after the word "claim" with --15--.

In Claim 53 Lines 2-3 please replace "the material for the Group III nitride" with --a material for GaN--.

In Claim 61 Line 3 please amend after the term "crystallizing the GaH_x aeriform substance" by adding --wherein the single crystal is grown in an atmosphere of a nitrogen (N) containing gas.--.

In Claim 62 Line 3 please amend after the term "the main component" by adding --wherein the single crystal is grown in an atmosphere of a nitrogen (N) containing gas.--.

Please add (new) Claim 63 (which will depend in Final Classification scheme from claim 43) with the following: --The method according to claim 55, wherein the pressure is more than 1 atm and not more than 10000 atm (more than $1 \times 1.013 \times 10^5$ Pa and not more than $10000 \times 1.013 \times 10^5$ Pa).--.

Allowable Subject Matter

2) The following is an examiner's statement of reasons for allowance: Upon review of applicant's amended claims, remarks, and CFR 1.132 declaration by Inventor Mamoru Imade, it is the examiner's opinion that claims 1,4-16,18-21,23-25,27-46,53,55,56,58,61 and 62 are now in condition for allowance.

The prior art does not anticipate applicant's claimed language for the inventive method of manufacturing a GaN single crystal via the use of GaH_x aeriform substance in a nitrogen containing gas. Further emphasizing said claimed language's patentability was the 1.132 affidavit asserting that this method has been unknown and ergo a new and unobvious invention meeting the criteria for patentability due to unexpected results.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to G. Nagesh Rao whose telephone number is (571) 272-2946. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571)272-1316. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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